

Hobbies

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A SMALL MODEL ROUNDAABOUT

THIS little model roundabout will please the youngsters, and it can be easily and quickly made. Just a few odds and ends make it up, and very little wood is required. The base, which will be the first part to construct, is made from a round disc of wood $\frac{3}{16}$ in. or $\frac{1}{2}$ in. thick and 6 ins. in diameter.

A $\frac{1}{4}$ in. hole is made in the centre. A little to one side of this there are two blocks of wood about $\frac{1}{4}$ in. thick and measuring 1 in. long by $\frac{1}{2}$ in. wide. These blocks also have $\frac{1}{4}$ in. holes in them for the passage of a piece of round rod, the purpose of which will be explained later.

Flounce Edging

Round the edge of the 6 in. disc mentioned above there is fixed a strip of stout card 1 in. wide. This may be glued to the wood and further strengthened by driving in fret pins or small tin tacks round the edges. The base, when thus far completed, will look like Fig. 1, which is an underside view, with part of the card edging cut away for sake of showing the blocks etc. inside.

Next, keeping the base upside down as shown, lay a ruler across the top so it comes in line with the holes in the blocks. Mark a line on the outside surface of the card where two holes must be neatly cut for the round rod.

It may be explained now that a piece of round rod will later be

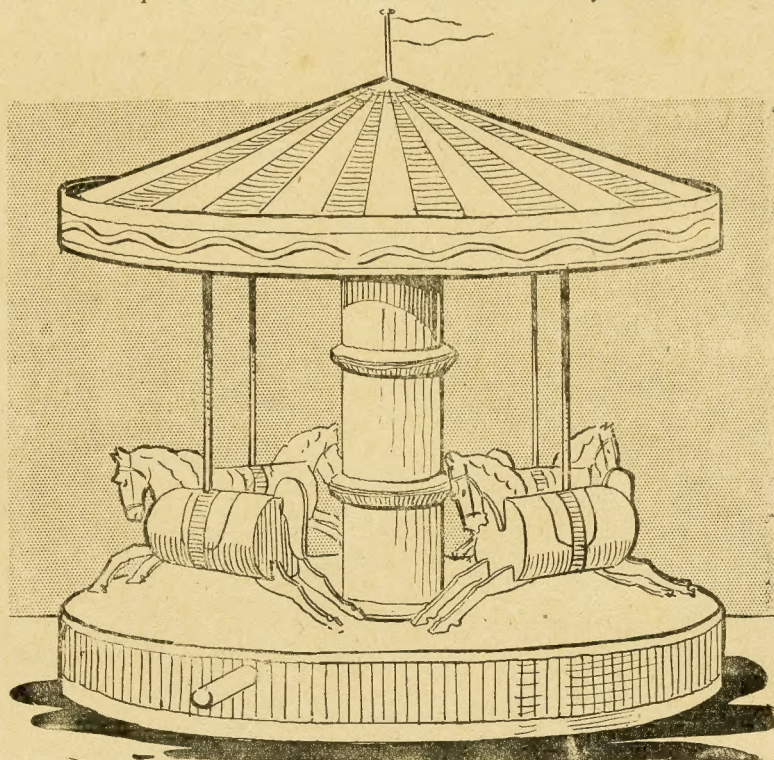
pushed through the four holes, and an elastic band threaded in between the two blocks. The elastic band will be twisted and passed round the main

upright rod to which the upper part of the roundabout is fixed. It will thus be seen that by having a projecting end to the horizontal rod to act as a finger grip, the whole top may be spun round easily.

The principle of the working rods and band can be readily understood from the circled diagram in Fig. 1.

The Canopy

Now we come to the top or canopy, and for this we must first have another big round disc of wood with a hole in the centre exactly like that used for



the base. Round the edge of this too is a strip of card, or stiff paper would do $\frac{1}{2}$ in. wide.

In fixing this round, allow it to stand up $\frac{1}{2}$ in. above the top surface of the wood disc so that the conical top to the roundabout may later be placed inside and thus held in place.

Next get an ordinary cotton reel and glue it to the underside of the wooden disc exactly central over the hole. Bore four small holes in the cotton reel at equal distances round

to show the wires, etc. The outer ends of the wires should not project more than $\frac{1}{8}$ in. beyond the edging strip.

A piece of $\frac{1}{2}$ in. round rod is next cut off to length 4 $\frac{1}{2}$ ins. long and passed up through the reel and just through the hole in the top wooden disc, the end of the rod being first coated with glue so that a firm fixing is obtained.

Again taking the base in hand, we get two more cotton reels and glue

lower reels, and it would make for ease in working if a thin brass or ivory washer is put between the top reel and the two lower reels.

The conical top of the roundabouts can be made from a sheet of stiffish paper cut to the measurements given in Fig. 2. Bend up the vee section and glue the two edges together. Make a hole in the peak where a piece of wire or a long pin may be inserted with a flag on the top.

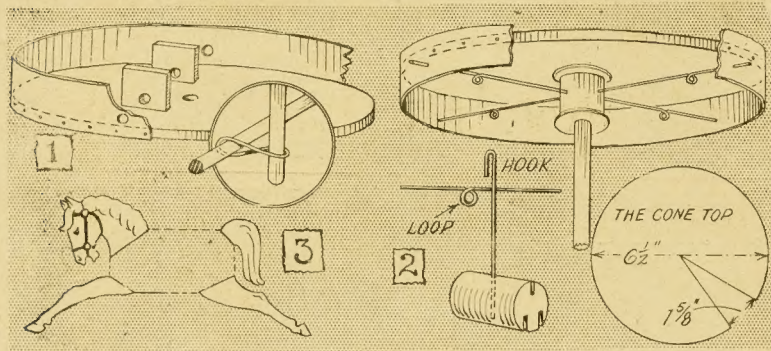
Horse Parts

The body part of the horses may consist of $\frac{3}{4}$ in. diameter rod cut off to lengths of 1 $\frac{1}{2}$ ins. with saw-cuts made for the insertion of the legs, head and tail. Each saw-cut may be made with a tenon saw and cut on the angle so that the head etc. will fit in as indicated in Fig. 3. This diagram shows also how the parts can be cut from stout card or thin wood.

All the parts of the horses should be painted in bright colours including saddles and bands. In Fig. 2 the method of hanging the horses from the top cross wires is shown. Bore a small hole in each horse and insert a piece of wire with a deep hook formed at the top.

The wire should be of such length to allow the feet of the horses just to clear the floor when swung from the wire loops above.

We have indicated in the sketch how the parts of the roundabout may be painted, gay colours, of course, being adopted throughout. Poster paint is best to use.



the drum portion of it, and in these holes insert the ends of the wire supports for the horses.

The wires should be about 3 $\frac{1}{2}$ ins. long, and at a distance of 1 in. from the outer end of each a loop must be made. Looking at Fig. 2 we see the whole process, part of the edging strip of card again being broken away

them together firmly and then glue them to the top surface of the base over the central hole. When the glue has hardened, the rod of the top part of the roundabout is passed down through the two fixed reels and out at the bottom where it should project about $\frac{1}{2}$ in.

The rod must turn freely in the two

The Editor's Notebook—

AN excellent suggestion by which model-makers can localize the work they undertake comes in a suggestion by the Hon. Sec. of the Cornish Engine Preservation Society. The Newcomen was, as most people know, the father of the steam engine and originated about 1712 by Thomas Newcomen of Dartmouth. Now strangely enough, as Mr. W. Tregoning Hooper says, there appears to be no model of this engine in the County of Cornwall, and he is recommending model makers to rectify the deficiency as an added attraction for an exhibition being held in Falmouth this month. This will include models of boats, ships, engines, planes, etc., and no doubt many of our readers in the district will send an exhibit.

THE point to bear in mind, however, is the added popularity in any model or piece of work which may have a local background or point of interest. You may have a celebrated Church in your district or a famous house which normally forms the centre of a summer

pilgrimage of visitors. Or it may be a celebrated cave or bridge. Anything of that kind can be copied as a model and its originality and local interest are bound to make it an outstanding exhibit, whether shown at a public exhibition or merely displayed in a store or shop window. Give the matter some thought the next time you are looking round for something to "modelize."

A NEW edition of "Kuklos Annual"—that old-established cycling handbook, is of outstanding importance to those who appreciate opportunities for combining hobbies like photography, geology etc., with healthy open air holidays such as the possession of a bicycle provides.

The "Kuklos Annual" deals fully with the very latest position regarding buying bicycles and all necessary accessories; wartime laws and regulations, cycle touring and camping, and includes an exhaustive list of establishments throughout the country which are still catering for road travellers.

The publishers, Ed. J. Burrow & Co. Ltd., Cheltenham, are finding it difficult to satisfy the demand for copies which are obtainable at 1s. 6d. (1s. 9d. post free). Many hints for the "mechanically minded" and the 70-page Resthouse List make this handbook worth more than the price to a "non-club" cyclist and open up a wide vista of enjoyable touring holidays in happier times.

HERE is further proof of how splendidly models made and given for competition can raise large sums for good causes. Mr. Dimmock of Little Southfield Str., Worcester, has produced models which brought in the following excellent results:—H.M.S. Hood £10 17s. 4d. for the Worcester Red Cross V.A.D.; H.M.S. Southampton £6 15s. 0d. for the Aid to Russia Fund; The Queen Mary £7 7s. 0d. towards a new Ambulance; Spitfire £14 2s. 0d. for the Royal Infirmary. This is a splendid example of individual effort for a good cause. Our congratulations to Mr. Dimmock.

The Editor.

A novel, reliable and imposing article to make— A CORD BAROMETER

THIS quite imposing barometer looks well in hall or passage, and is much simpler to make than its appearance suggests. The only materials for the case are an 8ins. by 20ins. panel of 3/16in. fretwood and a few odd pieces of deal, plus a small square of glass.

The works are of the simplest description, consisting of a spindle and pointer and a length of thin cord or string. As an indicator of the weather to be expected, however, it, despite its simplicity, gives a good degree of satisfaction.

Two-parts Case

The case is in two parts—a long narrow one holding the works, and an octagonal one containing the dial. The former is drawn in Fig. 1. It is made up of two long strips of 1in. sq. wood with 2in. pieces of the same size wood between at top and bottom.

A backboard, A, is made to cover the whole, of 3/4in. deal board. This is afterwards fixed over with screws so that it can be removed to gain access to the interior when necessary.

For the spindle bearings, two strips of thin brass are cut, 1/2in. wide and 2ins. long. In these a hole is drilled in the centre to take the spindle (dealt with later on) and a hole each end for fixing screws.

Plate Recess

Fix them each side of the long frame so that the spindle holes are 7ins. apart from the bottom. A shallow recess for the plates should be cut each side so that they can lie in flush with the surface, as shown in inset. In the backboard, A, bore a 1/4in. to come exactly opposite the rear spindle hole so that the wood does not press against the spindle when the latter is in place and prevent it working.

The octagonal case to hold the dial

and pointer is shown in Fig. 2. First cut a piece of 5/8in. deal board or thereabouts, to 8ins. sq. then saw to octagon shape. On this draw a second octagon, 3/4in. inside it and saw out. This will leave an octagonal frame, B.

Lay the frame on the fretwood and draw a pencil round it to mark its shape thereon. Saw to outline, and bore a 1/2in. hole in the centre. This backboard should be glued to the octagonal frame to make a kind of tray.

From the remaining fretwood cut a third octagon. Centre it and strike a 6in. circle. Saw this circle out. This is the front cover. Both the outer and inner edges of this could be bevelled off a little to improve the general appearance.

Glass Cover

A piece of glass should now be cut to fit inside the frame. This is supported on strips of the fretwood glued inside, as at C and D. These strips, four of which will be enough, should be not quite as deep as the frame, so that the glass when laid on them comes level with the front surface.

You will see what is meant by studying Fig. 2, which shows a section through the barometer case. Now fix the dial case to the long frame, with its centre hole in line with the spindle holes in the brass plates. Glue and nails will fix it securely. Lay the glass on and then fix the front cover over with four screws.

Two boards are wanted for the front of the long frame to cover it above and below the dial case. The upper one is shown at F. Cut it to size and saw out the long slot 3/4in. wide. Then bevel the edges of the slot. Glue a strip of muslin, or similar material, over the slot at the back, something that will allow air to enter and yet prevent dust. Then glue the cover over.

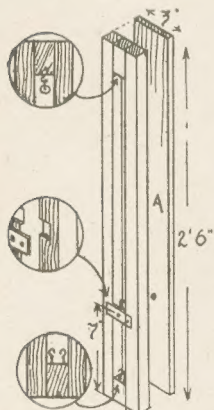


Fig. 1—Details of construction

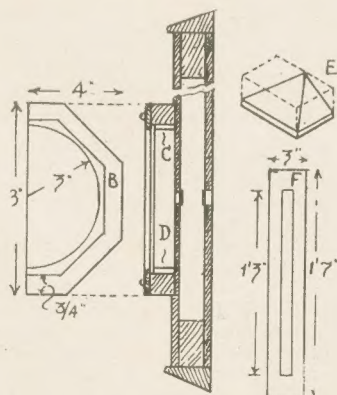


Fig. 2—Side and front view of glass casing and framework

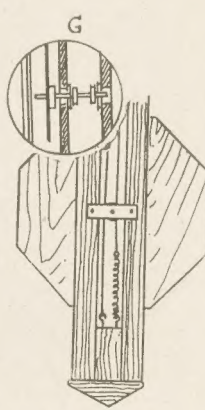
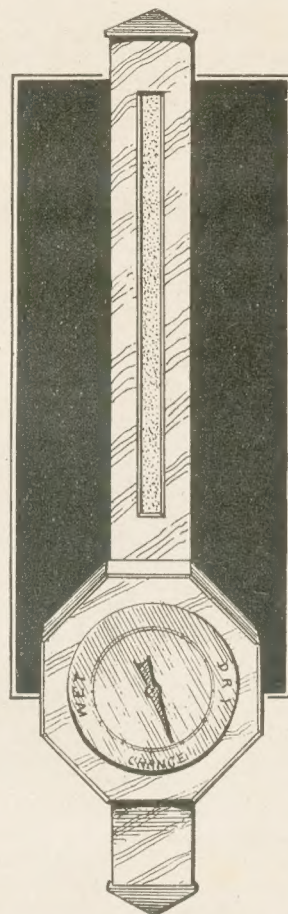


Fig. 3—Working details of pointer



A similar piece, minus the slot, is glued below the dial case. Both can be cut from 3/4in. thick deal. The case is completed by cutting and fixing a cap at top and bottom. These are cut from 1in. thick pieces of deal, 3 1/2ins. long, and wide enough to overlap in front 1/4in. How to cut these pieces to shape is shown at E.

The whole case is now finished, either by staining and varnishing, or painting. The latter would be best perhaps as varnish sinks in deal so much, especially those edges sawn across the grain.

To Hang

When the whole is dry remove the cover from the dial frame, and the backboard. In the long frame fix at the top a hanging metal pulley, such as is used to suspend curtains from their rods. These can be got from most hardware stores for a trifle—pre-war price 2 for 1 1/2d.

At the bottom of the frame drive in two screw hooks. These items are shown in insets, Fig. 1. For the, spindle, get a stout steel bodkin,

snap off the head, leaving the remainder about 2ins. long. The holes in the brass plates will, of course, be drilled to suit this spindle.

Fixing the Spindle

To keep the spindle in place, two discs of fretwood should be cut, about $\frac{1}{2}$ in. Bore fine holes through the centre of the discs, a tight fit on the spindle, and force them on.

Remove the rear spindle plate and push the spindle through the front plate. Adjust the front disc so that the end of the spindle will not touch the glass of the dial frame. See the rear disc is far enough on the spindle to allow the brass plate to be re-screwed in position.

The spindle should now be free enough to run easily, as in inset G, in Fig. 3. Leaving this for a moment make the dial and pointer.

These are shown in Fig. 4. The best material for the dial is Bristol board, but if this is not available then paste a piece of glazed white paper on to thin card as a substitute.

On this strike the outside circle H and the inner ones I. Divide the latter into 12 equal parts, and in the centre of the dial cut out a $\frac{1}{2}$ in. hole. Print in neatly the characters WET, DRY and CHANGE, and cut the dial to circle H. Fix it to the back of the dial case with a few drawing pins.

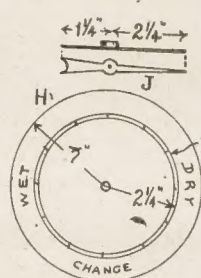


Fig. 4—Dial and Pointer

The pointer, J, is cut from thin tinplate, with a small hole punched through the centre. It is fixed to a $\frac{1}{2}$ in. disc of fretwood with two thin fretwork nails. Bore a fine hole through the disc, a tight fit on the spindle, then black enamel the pointer.

Get a couple of yards of twine, or thin cord, and a short piece of spiral spring. If no spring is available then

wind a length of fine steel wire a banjo string would do) tightly round a knitting needle. This will make a good spring. The ends of the spring should be bent to form eyes.

In Use

Dry the twine thoroughly, a few hours in a warm oven will do this if the weather is damp. Slip the spring over one of the hooks at the bottom of the frame, then tie the twine to the spring.

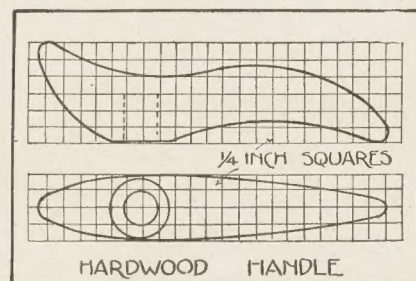
Wind the twine two or three times round the spindle in an anti-clockwise direction, run the twine over the pulley, then draw it down until it is taut and tie off to the second hook. Fig. 4 shows these details.

Fix the spindle to the pointer, facing DRY on the dial. Refix cover and backboard and hang the barometer in a hall, or passage. Leave it for a few days to acclimatise itself and it will be ready. Always tap the glass before reading the dial, just as you would an ordinary barometer.

Help the Red Cross by making and sending them PLAIN WALKING STICKS

OLD mop sticks and brooms can be readily turned into walking sticks for the Red Cross. The mop and broom sticks are sawn off to lengths varying from 28 to 34ins. They are then tapered from $\frac{7}{8}$ in. diameter to $\frac{1}{2}$ in. In some of them a $\frac{1}{2}$ in. dowel is turned on the top end to fit into the handle shown. Glass-paper and finish with french polish. Before cutting off the waste at the dead end use this centre to drill a $\frac{5}{32}$ in. hole 1in. deep. Then cut off waste and insert a $\frac{3}{4}$ in. screw.

For those who have no lathe make a V block of two pieces of 1in. wood 36ins. long. Bevel one edge of each board and fasten them together to make a V. Place a stop at one end



and lay the broom handle in this groove and plane.

Turn the handle repeatedly while planing to keep a fairly true surface and an even taper. Bore a $\frac{1}{2}$ in. hole in the top end and glue a $\frac{1}{2}$ in. dowel into it, leaving a $\frac{3}{4}$ in. piece of the

dowel extending. Glasspaper the cane and finish by staining and waxing or french polish.

The same operations would be for the sticks with the crook handle shown, only in this type of stick the top end is cut square and the end bored for a $1\frac{1}{2}$ in. double-end screw nail.

The grips or handles shown are made from pieces of scrap hardwood. Make a template from the drawing given. The side pattern is the most necessary. Scribe the pattern on the wood and saw out the shape with a copying saw.

In either case locate the centre on the flat surface of the joints and on these scribe a $\frac{3}{4}$ in. circle which is the position in which the handle and the cane is jointed up.

In shaping the crook handle thin out the thickness towards the front to about $\frac{3}{8}$ in. Then using a spokeshave, round up at the arries or joints. A half-round rasp will be very useful in getting off some of the waste. Finish with a file and glass-paper. The handle is bored for the screw nail which goes partly into the cane and partly into the handle.

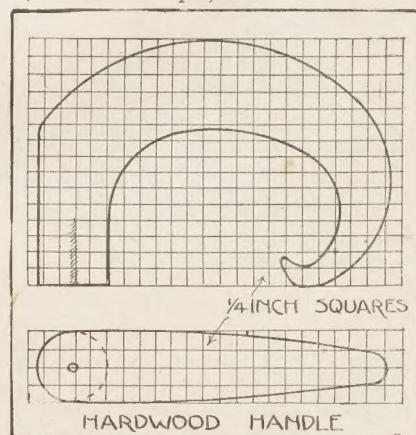
With the flat-shaped handle, chisel the edges of the handle from the $\frac{3}{4}$ in. circle to a well rounded blunt point front and back. Round the top and bore for the $\frac{1}{2}$ in. dowel.

Glue should be used in putting together both handles and in the case of those with dowels, a $\frac{1}{2}$ in. wire nail driven through the side of both handle and stick into the dowel will do much to make the front reliable.

A sheep horn makes a useful grip

for a walking stick. The fact that horn can be combined to wood by screwing is a great advantage.

Requirements for finishing horn are few and easily applied—files, cabinet-scraper, hand drills and a



hack saw. Of course, abrasives are necessary but glasspaper, emery cloth and pumice are sufficient.

The greater part of the work in making a horn handle consists of the rasping up and finishing to the shape. Then comes the sawing to the size and plugging up the end and the boring for the screw which is to fix the handle to the stick securely.

When a number of these sticks have been finished the Red Cross will collect them and send them to the hospitals where they are needed. They will be very glad to have them.

Something quaint, useful and simple in this NOVEL REEL HOLDER

THE little novelty described makes a very acceptable gift for a lady. With one of these demure little maidens handy, there will be no need to wonder where that reel of cotton or reel of silk has gone, just pull the end of the thread which protrudes from beneath the skirt and the mystery has been solved.

Yes, the skirt of the figure conceals a reel which is held simply by a cross bar inside, and upon which the reel is allowed to turn.

The figure, as can be seen in the sectional diagram Fig. 1, is made from eleven separate pieces of wood, six for the skirt, one for the body, two for the trunk portion, and one each for the neck and the head.

Figure Parts

The main parts of the figure—the skirt and the chest, are made from a series of wooden rings and discs all glued together. The six parts of the skirt are all cut from $\frac{3}{4}$ in. wood, and each are distinct rings of wood cut to the following outside and inside

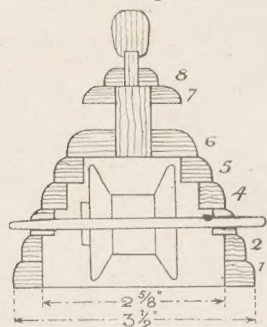


Fig. 1—Section of the article

diameters—see example No. 1 in Fig. 1. The ring No. 1 is $3\frac{1}{2}$ ins. diam. outside, $2\frac{3}{4}$ in. inside; No. 2 $3\frac{1}{2}$ outside, $2\frac{3}{4}$ in. inside; No. 3, 3 ins. outside, $2\frac{1}{4}$ ins. inside; No. 4, cut from waste inside wood of No. 2, inside diam. $1\frac{1}{2}$ in.; No. 5 cut from waste of No. 3, inside diam. $1\frac{1}{2}$ in.; No. 6, $1\frac{1}{2}$ ins. outside, $\frac{1}{2}$ in. diam. hole in centre.

Circle Making

Describe the above circles direct on the wood and cut them round with the fretsaw, afterwards cleaning the cut edges where necessary before the shaping is commenced.

Use a 4 in. wood rasp for clearing away most of the unwanted wood, then use a file and finish with glass-paper. Glue all six pieces together with care to get the proper amount of "lap" all round. Add a little glue inside to all the joints, brushing it well in at all the angles.

While the glue is hardening the upper parts of the figure, comprising the body, chest, neck and head may be put in hand. In Fig. 2 all these pieces are shown separately to illustrate how they are built up. For the body, a piece of $\frac{1}{2}$ in. diam. rod 1 in. long will be wanted and this will simply be glued into piece No. 6 at the top of the skirt.

Shoulder Work

Then for the chest two further rings of wood are wanted, and are shown as Nos. 7 and 8 in the details. Number 7 is $1\frac{1}{2}$ ins. in diam. with a $\frac{1}{2}$ in. diam. hole in the centre to receive the body section. Number 8 is $\frac{3}{4}$ in. in diam. with a $\frac{1}{2}$ in. hole in the centre for the neck which consists of a piece of $\frac{1}{2}$ in. rod $\frac{1}{2}$ in. long.

Cut and shape up the two discs and glue in the body and neck pieces. The head is shaped from a solid piece measuring about $\frac{1}{2}$ in. by $\frac{1}{2}$ in. in diam. The section of the head shown in Fig. 1 will assist in getting the correct shaping. A recess is bored in the head-piece $\frac{1}{2}$ in. diam. to receive the neck.

The muff consists of four discs of $\frac{1}{2}$ in. thick wood glued together and shaped as shown in the section at B in Fig. 2.

Two arms will next be cut from $\frac{1}{2}$ in. or $3/16$ in. wood to the pattern and sizes given at C in Fig. 2. Glue these to the ends of the muff in alignment so that they meet the underside of disc No. 7.

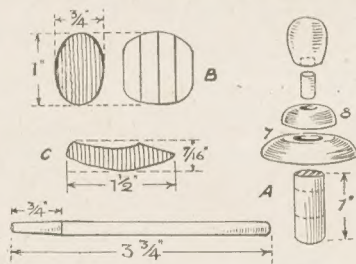


Fig. 2—Shape of various parts

Glue the arms very firmly here, and put a bead of glue to the back of the muff where it touches the two top members of the skirt. An attractive bonnet may be made from stiff paper or card cut to shape and bent round the head as in the illustration of the finished article. A little piece of narrow ribbon carried over the top of the bonnet and brought down to tie under the chin completes the headgear. The features of the face may be added by a few dabs of paint.

The method of pivoting the reel inside the skirt is clearly seen in Fig. 1, where, in this instance, a large size reel is shown. Any size smaller reel will naturally have an easy fit.

A piece of $3/16$ in. diam. rod is prepared as shown in Fig. 3 with a slight taper at one end so when it is put through the first hole and the cotton or silk reel threaded on, it wedges itself in the hole made at the opposite side. One hole must, there-



fore be made full $3/16$ in. diam. whereas the second one must be somewhat less to take the taper on the rod.

Stain or Paint

If the figure is made from a fancy wood such as satin walnut, oak or mahogany, then we should suggest that it simply be given a rubbing of oil or wax polish. If, however, a lighter wood be used, then the whole should be enamelled or painted artistically in appropriate colours.

Finally, in the immediate front of the skirt and at its extreme bottom edge file or carve two little circular grooves for the cotton or silk to pass through from the reel inside.

Antofret Cutting

By the way, those who have read our articles some time ago on antofret, will realise, upon looking at the section at Fig. 1 how the work can be undertaken effectively by this method.

You may remember that by cutting a circle with a slightly sloping saw the centre piece of wood could be pushed up through the other until it sticks about three quarters the way.

This forms two layers of wood from one board, and by continuing other circles inside each other the figure could be built up economically and easily. The different rims are then fixed in place with glue round their edge and stiffened underneath with little blocking pieces.

The top and bottom piece must, of course, be cut from the solid board, but the four parts between can all be from one piece. A good plan is to draw a line in pencil before you commence cutting from the centre of the wood to the outer edge. Then when the circular rings are cut, they can be fixed in the same place, the position being marked by the line crossing the cut.

How to turn a glass jar and screw top lid into A SMALL OIL LAMP

ARATHER novel wee lamp is shown at Fig. 1. It uses paraffin oil and the main feature about the lamp is that it will burn for hours on a few drops of the oil. We have designed the lamp mainly for children's nurseries or bedrooms, but it would also serve for illumination in a sick room or for your own personal comfort. Sometimes, long after the child has gone to sleep, the light (candle, oil, gas or electric) burns on, this resulting in unnecessary waste and expense.

With the tiny lamp to be described, however, it is possible to gauge the amount of oil needed to give an hour or two hours burning. The light, when the oil is consumed, automatically goes out.

If it gets knocked over, the tiny light will go out—in fact, the least whisp of air will put it out. There is no danger of oil spilling and spreading, for the simple reason that the wick, like that in a petrol lighter, is packed in the container with cotton wool soaked with the oil.

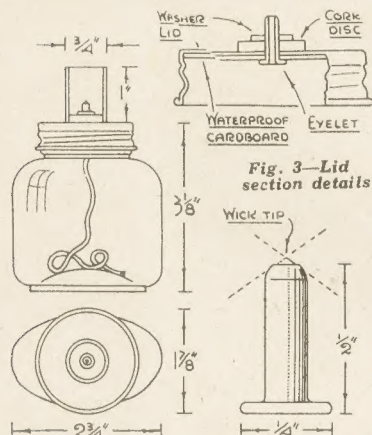


Fig. 2—Side and top view

Fig. 4—The rivet wick spout

Our little lamp also makes an ideal item for a smoker's companion. Fill it, light it, and leave it to burn all day, in the club, billiard hall or canteen, thereby saving hundreds of matches.

How to make It

The chief part is an empty Mac-Lean's Stomach Powder bottle (or one similar), a small eyelet rivet, metal washer, disc of cork and piece of tin, including a piece of 3/4 in. diam. test tube 1 in. long, a bit of cord and some cotton wool.

Therefore, to begin work, you will need the bottle. Any kind of bottle or jar having a screw-on tin top or cap will serve providing the diameter is about 1 1/2 ins. across up to 2 ins.

The body of the bottle or jar should not be too large.

Having obtained the bottle (Fig. 2) the first thing is to wash it out and clean it. Remove the lid and drill a hole in its centre for the eyelet rivet. The type wanted, as used by the writer, is a 1/4 in. long by 1/4 in. thick T.M.P. rivet, a clear view of which appears at Fig. 4.

Drill the hole neatly and cleanly through the tin and the cardboard disc that adheres to the inside. This disc is wanted to keep the contents of the jar air-tight. Otherwise the oil would quickly evaporate.

That is why the rivet (wick spout, when you have finished with it) must be a tight fit in the lid. So, drill a suitable hole so the rivet will have to be forced through.

To Save Soldering

Many readers cannot solder successfully, so by following the above instructions, soldering will not be necessary. Those of you who do solder can simply bore a hole for the rivet, press it in, then apply a "collaring" of solder at the base of the rivet stem.

Having secured the rivet, a disc of 1/4 in. cork 3/4 in. in diam. is drilled in the centre and slipped over the rivet, following which a small, tightly-fitting metal washer is pressed on and forced down upon the cork disc (see Fig. 3). The cork disc is used as a holder for the glass tubular globe (made from an old test tube), the cork fitting inside comparatively tightly.

Fitting the Wick

The wick, at this stage, could be threaded into the wick spout. A piece of soft, white cord about 6 ins. long makes a good wick. If you can manage to get a piece of 1/4 in. thick lamp wick (this looks like braided sash cord), a strand unravelled from same would make a good wick.

Once you have fitted the wick, drop the free end into the bottle and pack wads of cotton wool around it until the bottle is full. The packing must not be done too tightly nor too loosely.

The lid is screwed on, but you should first twist it in an anti-clockwise direction a few times so that, by the time you have screwed on the lid, the twist will have gone out of the wick. The latter, as you will see at Fig. 4, must be trimmed to have a slight, conical-shaped tip. The trimming is done with the scissors, holding them at the angle indicated by the dotted lines.

Too much wick means a dirty, smoky, yellowish flame and it also means burning up the oil quickly.

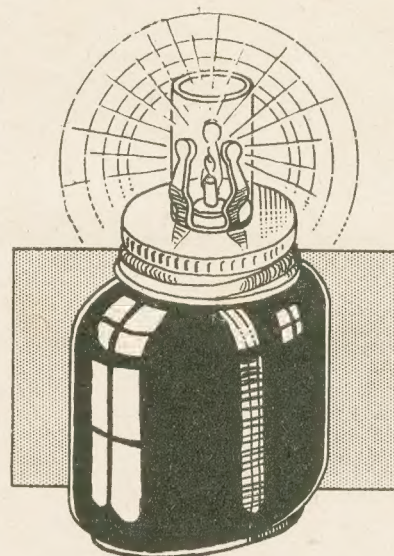


Fig. 1—The completed lamp in use

Trim the wick tip until you get the best results, therefore. To add fresh oil, just unscrew the lid and put the oil in. When twisting the lid on again, be sure to have it tight to prevent the "gas" escaping.

A Clip Holder

As you know, the globes on most oil lamps clip on to a special holder. If you prefer this method, a simple form of clip can be cut out as shown at Fig. 5. It is bent, to grip the globe, as you can see.

The holder is cut from tin or thin brass. It is held to the bottle top by means of the wick spout and a suitable washer which, if not a tight fit, could be soldered on.

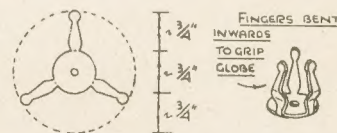


Fig. 5—Cutting and shaping the globe holder

Do not have the tubular globe too long nor too narrow in diameter. Although the flame is a tiny one, there is much heat from it and the glass is liable to crack if it gets too hot. Glass tubing having an inner diameter of 3/4 in. or 1 in. is the most suitable. Or you can purchase a suitable composition lamp glass from an ironmonger.

You may even be able to get hold of one of the glass opaque ones of a different shape which were at one time common to the tiny paraffin lamp. It would certainly look just as well.

Add to the realism of your railway layout with these MODEL LIGHT SIGNALS

OWNERS of model railways, especially those built in the last year or two, are, no doubt, faced with the problem of how to signal their layout, and so it is hoped that the following description for a home-made colour light signal, with distant control, will be of use to many readers.

At Fig. 1 we have a full size drawing of the upper part of the signal, and as will be seen it is most suitable for Gauge 0 miniature railways. As standard pocket torch bulbs are used the signal is too large for 00 Gauge work.

The main measurements should be taken direct from the drawing and the method of making the outer casing is illustrated in Fig. 2. It is made from a strip of fairly hard wood, otherwise the thin casing is liable to split if soft wood is used.

Bulb Container

The entire centre of the wood is hollowed out by drilling a few holes through and cutting the wastewood out with either a fret-saw or chisel. Leave a length of wood still attached to one end of the casing to hold in the vice. The container should then have the appearance of an elongated picture frame, with a strip of wood or card glued across the centre dividing one bulb from the other. Make sure this is a good fit or you will have light straying through from one compartment to the other.

At the back of the case a strip of tin-plate is glued to overlap the lower part of it, with a hole punched in the tin to take the positive wire lead from a battery. Each bulb has a length of thin copper wire twisted tightly round it and carried out through the wood casing at the top and end. The wires are connected to the lever frame as stated on the diagram.

The bulbs are then screwed into

the centre of rolls made from strips of soft blotting paper, ensuring that the end contacts of the bulbs are tightly pressed against the tin-plate back of the case. When the bulbs are firmly fitted fix a strip of tin to the front of the case with two holes cut in it, as shown in the front view, Fig. 1, to the diameter of the inner circle.

Coloured Lights

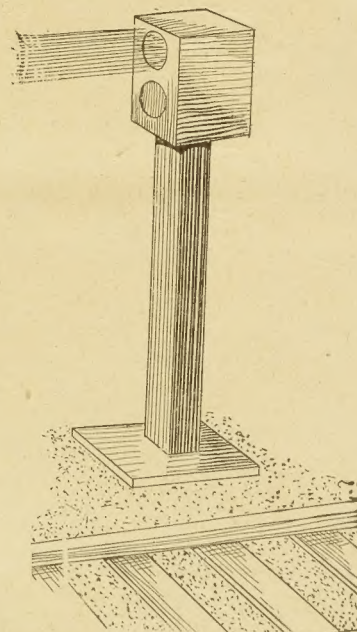
The colour effect is reproduced by further gluing a circle of celluloid to the inside of the front-plate, and thinly painting the top piece red and the lower green. The wiring is carried out flat against the sides of the casing and down the supporting post. Thin uncovered wire may be used for this purpose as it gives a neater effect than covered wire, providing the wires are not allowed to touch each other when fitted.

The height of the supporting post, for 0 Gauge railways, would be about 5ins. but this will vary according to circumstances, and the base can be made from a small block of wood screwed to the post.

Control Lever

The simple lever frame, at Figs. 3 and 4 may be made to control the signal from the switchboard or control panel on your railway. The dimensions of the lever and frame may be increased if desired, but the size given on the diagram is quite satisfactory and takes up little material and room.

Make the base of the frame from a small block of hardwood with a saw-cut down the centre to within about two-tenths of an inch of the base. A strip of brass, or steel, about 1/6in. thick is cut to shape as the lever, having a hole drilled in it as shown, to take a length of steel wire on to which it pivots; see top view of the frame and lever Fig. 4. Two strips of brass (those cut from an exhausted cycle battery



will do) are bent as shown in Fig. 4, and screwed to each side of the frame.

Wiring Details

The details of wiring are very clearly indicated and, as will be seen, on pushing the lever forward current is carried to the red light on the signal, and the green in the opposite direction. Only the negative leads from the battery go via the lever frame, the positive wire goes direct to the back plate of the signal.

The post portion of the signal may be painted grey and the bulb case black, while the frame of the lever control can be red with the lever left unpainted. This model is essentially a war-time piece of work, but considering the limited and simple materials used will be found to give good service.

With careful finish and painting it can be made quite realistic and will add considerably to your layout if several are added.

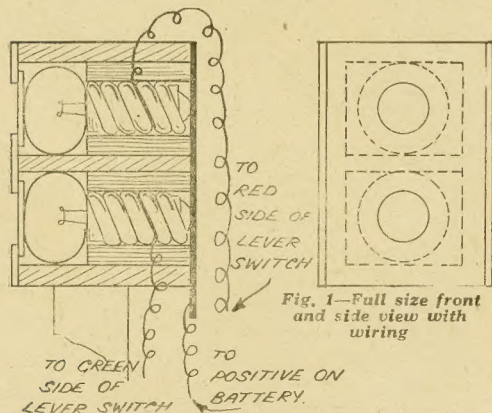


Fig. 1—Full size front and side view with wiring

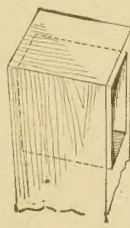


Fig. 2—The hollowed bulb holder

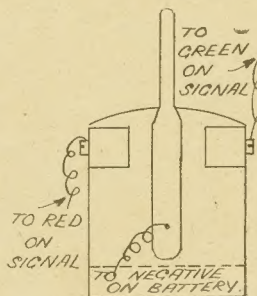


Fig. 3—The Wiring and lever switch

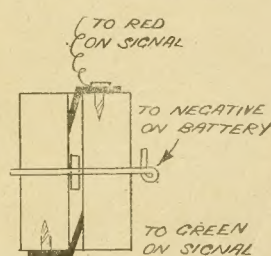


Fig. 4—End view of wiring control

Join with your friends in this simple form of A LETTER CIRCLE

WE imagine that few people look upon letter writing as a hobby, but here is a suggestion for forming a Letter Circle which will help to make the whole business much more interesting, and at the same time reduce the labour involved considerably.

It should not really be a labour at all, because the art of letter writing is simply to put on paper just what you would say to a person if you were talking to him or her individually.

Most of our friends now, however, are scattered in various parts, and if we seldom have the chance to talk to them, we can at least keep our friendship by a periodical letter of local, social and personal news. They are just as delighted to receive one from you as you are to hear from them.

Group Correspondence

When it comes to writing to six or seven people, however, it becomes a little arduous if undertaken frequently. The suggestion of the Letter Circle, therefore, should be helpful and serve to continue and cement the friendship between the same group with similar friendships and local knowledge.

You can even run the letter circle for three or four with just as much interest, and possibly more frequently. It is assumed, of course, that, say, all four people know each other well, and have the same local interest and knowledge of people and places. Few of us could not find at least four real friends coming under this category.

One Letter for All

Now for the suggestion to show that one letter from you can serve for all four, instead of having to write to each one individually. Make a list of the complete names and addresses of the four (or more) friends. Write this plainly on a fairly good sheet of paper, for it will have to be passed round and handled considerably.

Then write your own letter in the usual way to the fellow whose name is next on the list, bearing in mind, of course, that much of the news which you tell him will be of interest to the others.

He receives your letter and writes one himself. Instead of writing you, however, he writes to No. 3 on the list and sends your letter with it to him. When the two letters get to No. 3 he adds a further one and passes all three to the next man. Thus each one will have three letters of interest, and then pass on some news of his which the others can in turn read.

The last man on the list writes his

and returns the whole lot to No. 1. He takes out his first and original letter to destroy, and in its place writes another which he forwards with the rest to No. 2.

So the correspondence goes on circling round in its right order between the members. Each one is thus able to hear from all the others without their having the trouble to write individually.

Simple Rules

An arrangement of this sort can easily be come to with the others, and further notes about regularity and posting should be drawn up for all to understand. The letter, for instance, should be written and posted within, say, 10 days of receipt. A useful folder of stiff brown paper should be used so the whole lot of letters can be kept together.

Each letter should, of course, be dated and the whole lot forwarded in a strong envelope not likely to burst in the post. Interesting news items can be included, although one must be careful not to add anything of a military nature likely to be of value to the enemy.

If you are a quick writer, bear in mind that whilst your handwriting is quite clear to you, it may be a little difficult and even illegible to others, and as three or four have to read it, keep your wording clear and open.

By following this simple suggestion you will continue your friendship, and hear from all regularly. If other mutual friends like to come in, it will of course, increase your circle, and you will get to know each other better.

In writing, simple language is the easiest and best, and the ordinary things of life will be quite interesting to others. Put them down con-

versationally in a way which will appeal to all the other members of the circle. The letters should be "newsy" with little points of interest, pleasing to all.

Make it "Newsy"

For instance, the fact that it rained all day on Thursday is not of particular value. Whereas, if you mention that the little river at the bottom of Bridge Street overflowed its banks, and ran into the backyards of nearby houses, owing to incessant rain on Thursday, you are then telling something unusual and interesting.

Do not forget, too, that it is mere waste of time and ink to begin your letter "Just a few lines to let you know, etc." You can begin much more interestingly with, "Well, it is my turn to write again and..."

In this way by forming a friendly letter circle you will indeed increase the enjoyment of writing, and really find it a pleasing hobby as well as a matter of interest in looking forward to hearing from the other members.

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